

ADDENDUM TO:

"MOE CLASS ENVIRONMENTAL
ASSESSMENT DOCUMENT EXPANSION
OR UPGRADING OF AN
EXISTING SEWAGE SYSTEM"

"MOE CLASS ENVIRONMENTAL
ASSESSMENT DOCUMENT EXPANSION
OR UPGRADING OF AN
EXISTING WATER SYSTEM"



Ontario

Ministry
of the
Environment

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MINISTRY OF THE ENVIRONMENT
ENVIRONMENTAL APPROVALS AND PROJECT ENGINEERING BRANCH

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INTRODUCTION

The Ministry of the Environment (MOE) has given further consideration to the content of the two MOE Class Environmental Assessments (EAs), referenced above, which have been submitted to the Minister of the Environment for acceptance under the Environmental Assessment Act (EA Act). MOE proposes to revise the MOE Class EAs to clarify the manner in which MOE Class EA procedures are to be applied to MOE sewage and water activities. The amendments will improve the planning process and procedures for reviewing and documenting planning that are to be established pursuant to the approval of the MOE Class EAs.

Section 7(3) of the EA Act provides that a proponent may withdraw or amend an environmental assessment at any time prior to the giving of "Notice of Completion of Review". The Ministry of the Environment hereby amends the Class EAs by formally submitting this document as an addendum to the Sewage and Water Class EA documents.

OUTLINE

The amendments that are to be made to the MOE Class EAs cover the following topics:

A. CLARIFICATION OF THE SCOPE OF THE CLASS EAs:

- A1. Definition of the Activities Covered by the Class EAs;
- A2. Planning and Documentation Requirements;
- A3. Class EA Treatment for Joint-proponency Projects;

- A4. Class EA Treatment of "Operations" Activities;
- A5. Class EA Treatment of "Retirement" Activities;
- A6. Treatment of Sludge Management Activities under the Sewage Class EA;
- B. OPPORTUNITIES FOR PUBLIC AND GOVERNMENT INVOLVEMENT THROUGHOUT THE PLANNING:
 - B1. Purpose of and Techniques for Effective Participation;
 - B2. Mandatory Contacts to be made with Government Agencies and the Public;
- C. RELATED LEGISLATION AND HEARINGS PROVISIONS:
 - C1. Application of the Ontario Water Resources Act, (OWRA);
 - C2. Application of the Environmental Protection Act, (EPA);
 - C3. Application of the Consolidated Hearings Act, 1981;
- D. CLASS EA TREATMENT OF THE ACTIVITY OF PROPERTY ACQUISITION:
- E. CONSTRUCTION GUIDELINES;
- F. MONITORING PROGRAMME REQUIREMENTS:
 - F.1 Purpose for Monitoring Programmes
 - F.2 Monitoring Programme Requirements for Construction Activities;
 - F.3 Monitoring Programme Requirements for Operational Activities;
- G. PROVISION FOR CHANGING PROJECT STATUS - BUMP-UP;
 - G.1 Bump-up into Individual Environmental Assessments
 - G.2 Intermediate Bump-up Provisions
- H. REVISION AND ADDENDA TO ESRs;
- I. CLASS EA AMENDMENT PROCEDURE.

A. CLARIFICATION OF THE SCOPE OF THE MOE CLASS EAS

A1. Definition of the Activities Covered by the MOE Class EAs

The scope of the activities which are covered by the Class EAs is limited to activities carried out in connection with existing sewage and water facilities, which facilities are sewage or water works provided under Section 43 or provided or operated under a contract pursuant to Section 34 or 7(2) of the Ontario Water Resources Act (R.S.O. 1980). The Class EAs also cover activities carried out on waste management systems regulated under Part V of the Environmental Protection Act (R.S.O. 1980 and Regulations made thereunder), where those systems are a part of a sewage or water works as defined above. Activities carried out in connection with the expansion or upgrading of existing sewage facilities, owned or operated by the Crown, and regulated under Part VII of the Environmental Protection Act (R.S.O. 1980 and Regulations made thereunder), are also covered in the MOE Class EAs.

The purpose of defining the scope of the activities covered by the Class EAs in such a fashion is to clarify the fact that activities, including changes in the operation of sewage and water facilities and the establishment and operation of processed organic waste (sludge) management facilities, (e.g. agriculture utilization and landfilling of sludge), and sewage systems such as communal tile beds can be handled under Class EA procedures.

It should be understood that the proponent of the activities that are covered by the Class EAs is the Ministry of the Environment. Although the Environmental Approvals and Project Engineering Branch is responsible for undertaking the majority of capital construction activities carried out on provincial sewage and water facilities, certain activities regulated under the Ontario Water Resources Act and/or the Environmental Protection Act, such as the management of sludge, and activities

involving the operation of sewage and water facilities are carried out by the Utility Operations Sections of the six Regional Offices of MOE.

The term "existing", when used to define the scope of the activities covered by the Class EAs, requires definition. For example, an existing facility includes not only a sewage or water facility which has been constructed, but also includes a facility which has not yet been constructed but which is in compliance with the Environmental Assessment Act and has received approval under the Ontario Water Resources Act and/or the Environmental Protection Act.

It is necessary to define the term "existing" in such a manner so as to permit the MOE Class EAs to have application to situations wherein MOE wishes to establish an extension to another facility (e.g., a pumping station), where the other facility has not yet been built but for all intents and purposes must be considered as being in existence as a result of the approvals commitments as outlined above that have been made to its establishment.

The effect of defining the scope of the activities covered by the MOE Class EAs in the manner described above is to extend Class EA procedures to a number of activities which were excluded under the MOE Class EA documents as were originally drafted. For example, the action of abandoning an existing groundwater source and going to a surface water source associated with an existing water facility is now within the definition of the projects covered under the MOE Water Class EA. The activity of instituting a change to the technique of treating sewage within an existing sewage system, such as replacing a package treatment plant with a lagoon treatment system is now within the definition of the projects covered under the MOE Sewage Class EA.

The only activities which are not within the definition of the activities covered by the MOE Class EAs, as amended by this document, are activities involving the establishment of new sewage or water facilities. A new sewage or water facility is a facility wherein there is no connection with an existing sewage or water facility (as defined above), through a physical or process link. The establishment of a new sewage or water facility (e.g., replacing individual private wells or septic tank/tile field facilities with a communal water or sewage facility not connected to an existing facility), is considered to be a major undertaking and therefore is not appropriate for inclusion in the MOE Class EAs. MOE will prepare and submit an individual environmental assessment in each case where the establishment of a new sewage or water facility is proposed to be provided by MOE.

The planning and documentation process described in the MOE Class EAs, taken in association with the mechanisms that are available for bumping a project up out of MOE Class EA approval and into individual environmental assessment requirements, are appropriately suited to cover all activities performed by the Ministry of the Environment on existing sewage or water facilities.

A2. PLANNING & DOCUMENTATION REQUIREMENTS

It should be realized that quite a number of activities may have insignificant environmental impact, and to require these activities to undergo the full planning and documentation requirements as provided for in the MOE Class EAs may not be justified. This amendment categorizes these activities and spells out specifically the level of planning and documentation required.

Schedule "A" covers those activities which have minimal adverse effect on the environment. The level of planning and documentation is up to the proponent's discretion. There is no mandatory contact or documentation for the activities listed in Schedule "A", nor is there a bump-up provision associated with these activities. Schedule "A" is found in Appendix I.

Schedule "B" covers those activities which have the potential to adversely affect the environment. It is proposed that for these types of activities, the proponent would be required to contact specific agencies and the public where certain components of the environment could be affected (see Opportunities for Public and Government Agency Involvement in Planning, Appendix II). For example, if in planning to modify an existing water system's intake it is determined that the project will directly affect a permanent water course, the proponent will be required to contact the District Office of MNR. If that agency has a concern that could not be resolved through discussions between the agency and the proponent, the concern could be sent by either party to the Minister of the Environment for resolution. If this concern is significant enough, then an individual Environmental Assessment could be required by the Minister via the bump-up procedures. It is expected that this will not occur very often.

For the activities listed in Schedule "B" to be in compliance with these Class EAs, there is a mandatory contact with the public and the affected agencies as per Appendix II, but there is no mandatory requirement for an Environmental Study Report. The level of planning and documentation will be governed by the concerns raised during the mandatory contact. There is also an intermediate bump-up provision associated with these activities, and this provision is outlined in Schedule "B" of Appendix I.

Schedule "C" covers all activities for which the full planning and documentation requirements of these Class EAs are considered necessary, since these have the potential to significantly adversely affect the environment. Schedule "C" can also be found in Appendix I.

A3. Class EA Treatment of Joint-proponency Projects

It is sometimes the case that more than one jurisdiction has responsibility over aspects of a sewage or water facility. For example, the Province, through the Ministry of the Environment, might own and operate a sewage treatment plant while the municipality in which the plant was located might own the sewage collection system associated with the plant.

Where a project is proposed to be carried out in connection with such a facility, in terms of the Environmental Assessment Act it is not desirable to have two similar but separate Environmental Assessment procedures apply. Therefore, the parties should choose which procedure to follow, being guided by the following principles:

The proponent of the project will be considered as being the applicant. The applicant is the party who is primarily responsible for the project. The project will be subject to any applicable Environmental Assessments for which the applicant has received approval under the EA Act. The project will not be subject to any Class Environmental Assessments which might apply to that portion of the project over which the applicant does not have direct jurisdiction.

For example, where a municipality wishes to provide treatment capacity for future growth and this requires the expansion of an MOE sewage treatment plant and MOE is expected to continue to operate the expanded facility, the municipality would normally be considered as being the applicant. For purposes of the Act, the municipality would be the proponent of the project. The project would be subject to the requirements such as the "Class Environmental Assessment for Municipal Sewage and Water Projects". The project would then not have to comply with the requirements of the MOE Class EAs.

Each party should consult with the other at an early stage to determine which procedures should be followed. This determination shall be reflected in any notices and documentation which is made pursuant to the requirements of the particular Class EA which has been chosen to govern the project.

A4. Class EA Treatment of "Operations" Activities

The activity of operating a sewage or water facility is an action which may have the potential to significantly affect the environment and, as such, is an undertaking subject to the EA Act. An example of an operations activity having such potential is the relation of a discharge into receiving waters of effluent from a lagoon facility or backwash effluent from a water treatment plant to the maintenance of a fisheries resource.

Two categories of operations activities which require discussion for purposes of clarifying their status under the Class EAs are:

- operations activities at existing sewage and water facilities, which facilities did not need EA Act approval for their establishment; and
- operations activities at sewage and water facilities which facilities were, or are to be, established pursuant to individual or Class EA approval.

R.R.O., 1980, Regulation 293, Section 4(1), as amended, provides an exemption from the EA Act for normal and emergency operation activities associated with facilities that did not need EA Act approval for their establishment. For purposes of these Class EAs, MOE defines the term operation to mean operating, maintaining and repairing where the purpose, use, capacity and location remain the same. The term "same purpose, use,

capacity and location" means the replacement and/or upgrading of a structure, facility or its performance where the objective and application remain unchanged and the volume, size, and capability do not result in a facility's capacity exceeding the existing rated capacity and there is no substantial change in location. Existing rated capacity refers to the flow or volume of the sewage or water system as certified under the Ontario Water Resources Act and/or the Environmental Protection Act, or as implied in the plans and specifications that were submitted to obtain the above-mentioned certificates, or where no technical documentation exists, is the current existing capacity.

The concept of substantial change in location must be defined on a case-by-case basis. If there is any doubt as to whether a change in location is or is not substantial, discussions will be had with the potentially affected government agencies and members of the public (a list of such is presented as Appendix II of this document). The proponent will base all decisions on the question of significance upon the results of these discussions.

Operations activities at sewage and water facilities, which facilities were, or are to be, established pursuant to approvals under the EA Act (i.e., via individual EAs or these Class EAs), are activities which are subject to the following requirements:

- i. The manner in which a sewage or water facility is to be operated will be considered as part of the planning for the establishment of the facility.
- ii. Where an operations activity has the potential to adversely affect the environment, e.g. timing of release of discharge from a lagoon system, the planning decisions that gave shape to the proposed method of operation and the planning which will be undertaken to refine the activity at the time it is to be instituted will be described in the individual

Environmental Assessment (EA) or - in the case of a project proceeding under the Class EAs - the Environmental Study Report - which is prepared for the establishment of the facility itself.

- iii. Where guidelines governing normal and emergency operations activities, such as operating manuals, have been developed, they will be referenced in the individual EA or ESR which is prepared for the establishment of the facility. Operations activities will be carried out in accordance with these manuals or guidelines.
- iv. Where a sewage or water facility is already in existence and an operations activity is proposed which has not been discussed in the individual EA or ESR associated with the establishment of the facility, and which either does not meet the definition of the term "operation" given above, or is an activity within the definition of the term "operation" but which has the potential to significantly adversely affect the environment, that activity will be treated as a separate project and will be planned and implemented in accordance with the full planning and documentation requirements of the Class EAs. If there is any doubt as to whether a potential effect is or is not significant, discussions will be had with the appropriate government agencies and members of the public. The proponent will base all decisions on the question of significance upon the results of these discussions (see Appendix II).

The following is a list of activities which are considered to fall within the definition of normal and emergency operation. While this is thought to contain most operational activities, this list should not, however, be misconstrued to be all-inclusive.

- modify, repair, reconstruct existing facilities to provide operational, maintenance or other improvements such as: reducing odour; insulating of buildings to reduce noise levels and conserve energy; landscaping.
- ongoing maintenance activities.
- normal and emergency operation of sewage and water treatment facilities.
- maintenance and/or minor improvements to grounds and structures.
- addition of minor buildings, sheds and storage areas.
- repairs, cleaning, renovation or replacement of a well or intake.
- repairs, cleaning, renovation, replacement of water treatment plant and pumping station equipment or structure, storage facilities, distribution mains and appurtenances.
- repairs, cleaning, renovations, or replacement of sewage treatment plant and pumping station equipment or structures.
- repair, cleaning, renovation or replacement of a sewage facility outfall.
- installation of corrosion protection systems.
- cleaning and/or relining existing collection system.

- repairs, renovations or replacement of existing collection system and/or appurtenances.
- cleaning, relining or replacement of existing mains.
- Installation of chemical or other process equipment and construction of associated facilities in existing pumping stations.

A5. Class EA Treatment of "Retirement" Activities

Certain facilities may become redundant or inefficient, or the nature of ownership or operation of facilities may become inefficient to the extent that MOE may elect to retire the facility. Retirement may involve simply relinquishing rights, such as operating responsibilities to a second party, or may involve actions such as decommissioning plants, demolishing structures and selling property.

Activities involving the retirement of a sewage or water facility are actions which have the potential to significantly affect the environment and are undertakings subject to the EA Act. An example of a retirement activity having such a potential would be the demolition of a structure, such as a water treatment plant, which is of significant historical, architectural value. A second example would be the decision to retire a sewage or water facility wherein the abandonment would leave former customers without service.

Two categories of retirement activities which require discussion for purposes of clarifying their status under the Class EAs are:

- retirement activities at existing sewage and water facilities, which facilities did not need EA Act approval for their establishment; and
- retirement activities at sewage and water facilities which facilities were, or are going to be, established pursuant to individual or Class EA approval.

R.R.O 1980, Regulation 293, Section 4(1) provides an exemption from the EA Act for the activity of retiring a facility that did not need EA Act approval for its establishment.

Retirement activities at sewage and water facilities, which facilities were, or are to be, established pursuant to approvals under the EA Act are subject to the following requirements:

- i. Wherever possible, the end use of a sewage or water facility will be anticipated so that retirement activities can be identified in a general sense at the time the facility is being established. In this way, the facility can be designed to reflect any long-term intentions respecting future operations or uses that are to be made of the site. This planning will be described in the individual EA or ESR prepared on the establishment of the facility.
- ii. Where the establishment of a sewage or water facility has the effect of rendering a second facility redundant, the planning related to the retirement of the second facility will be discussed in the individual EA or ESR that is prepared on the establishment of the first facility.
- iii. Where a retirement activity, which has the potential to significantly adversely affect the environment, is proposed as an isolated incident at an existing sewage or water facility, which is not the result of the establishment of a related sewage or water facility, and has not been discussed in the individual EA or ESR associated with the establishment of the facility, the retirement activity will be considered as being a separate project and will be planned and implemented in accordance with the full planning and documentation requirements of the Class EAs.

- iv. Retirement activities which merely involve the disposition of rights to facilities, such as relinquishment of operating responsibilities, can be completed without complying with the full planning and documentation requirements of the Class EAs on the condition that the party assuming responsibility for the facilities continues to operate the facilities in the same manner that the facilities have been operated in the past. Where the second party proposes to change the manner of operation, MOE will not complete the retirement activity until MOE has established that the proposed change in operation is in compliance with the EA Act. Compliance with the EA Act will be established pursuant to the treatment of operations activities as described in Section A4 above.

A6. Treatment of Sludge Management Activities
under the MOE Class EA

The management of sludge is an action within the definition of the scope of the activities covered by the MOE Class EAs. The responsibility for sludge management activities is shared among various branches of MOE. The Waste Management Branch of MOE is responsible for the development of certain aspects of policies governing sludge utilization and sludge disposal. The responsibility for planning sludge management in association with a capital construction activity at a sewage facility generally rests with the Environmental Approvals and Project Engineering Branch of MOE. The responsibility for implementing sludge management activities on an ongoing basis generally rests with the Utility Operations Sections of MOE's six Regional Offices.

The requirements of the Sewage Class EA as they relate to sludge management activities are as follows:

Sludge Management Planning

Environmental Approvals and Project Engineering Branch will deal with the preferred method of sludge management and the optional methods of sludge management that are available for institution should the preferred method become unavailable, (i.e., sludge management contingency planning), as a part of the planning for the establishment of a sewage facility.

This planning will generally be on a broad scale. Where possible, the future tasks which the appropriate Utility Operations Section of MOE must fulfill in terms of actually implementing the preferred or a contingency sludge management procedure, (e.g., finding the actual sites for agricultural utilization or establishing landfilling operations for sludge disposal), will be documented in the ESR which is prepared on sludge. The ESR will typically outline the appropriate legislation and guidelines which establish procedures under which MOE's Regional Office will make and document sludge management planning decisions.

For example, the planning process for an expansion or upgrading of an existing sewage facility could take into account agricultural utilization as a solution to sludge management. In a general way, Environmental Approvals and Project Engineering Branch would determine whether enough sites meeting the requirements for agricultural utilization of sludge are within a reasonable distance from the sewage treatment facility. Environmental Approvals and Project Engineering Branch would discuss this planning and the fact that the Utility Operations Section of MOE's Region will be implementing the preferred sludge management solution utilizing the "Guidelines for Sewage Sludge Utilization on Agricultural Lands" in the ESR prepared by Environmental Approvals and Project Engineering Branch on the expansion or upgrading of the sewage facility.

A sludge management activity which has not been discussed in an individual EA or ESR on the establishment of a facility will be treated in the manner described in detail in the following pages.

A separate summary of the planning and documentation requirements for the alternative sludge management activities described below can be found in Appendix III. The alternative sludge management activities described below can also be found in the appropriate Schedules of Appendix I.

Sludge Utilization

Sludge can be managed through utilization as fertilizer supplement in agricultural operations. The "Guidelines for Sewage Sludge Utilization on Agricultural Lands" prepared by the Ministry of the Environment and the Ministry of Agriculture and Food, published April 1978, revised March 1981, established acceptable procedures for planning and implementing sludge management activities which will have minimal adverse effects on the environment. The sludge utilization program requires, among other things, the continuous addition of new agricultural fields to comply with the above-noted Guidelines. Sludge management activities involving agricultural utilization are considered to have minimal adverse effect on the environment where these activities are planned and implemented in accordance with the above-noted guidelines, as may be interpreted by MOE's Regional Offices in consultation with Waste Management Branch and the Sludge Guidelines Implementation Committee, as necessary. Therefore, at the proponent's discretion, the full planning and documentation requirements of the sewage Class EA need not be followed for these types of sludge management activities. There is no mandatory contact, nor is there a bump-up provision associated with these types of activities. (See Schedule "A", Appendix I.)

Sludge can also be utilized as fertilizer supplement on non-agricultural lands such as forest lands. Such activities have the potential to adversely affect the environment. Therefore, the proponent will be required to contact specific agencies and the public where certain components of the environment could be affected (see Opportunities for Public and Government Agency Involvement in Planning, Appendix II). The level of planning and documentation will be governed by the concerns raised during the mandatory contact. There is no mandatory requirement for an Environmental Study Report (ESR). There is, however, a bump-up provision associated with such activities, and this provision is outlined in Schedule "B" of Appendix I.

Storage of sludge is an integral part of the utilization of sludge on agricultural lands. If storage is provided at the treatment plant where the sludge is generated or at the soil conditioning site where the sludge is to be utilized, such activities are considered to have minimal adverse effect on the environment. For this reason, at the proponent's discretion, the full planning and documentation requirements of the sewage Class EA need not be followed for these types of sludge management activities. There is no mandatory contact, nor is there a bump-up provision associated with these types of activities (see Schedule "A", Appendix I).

Sludge transfer lagoons/stations for the storage of sewage treatment plant sludges to be subsequently utilized on agricultural lands over an area not exceeding 50 ha for each annual sludge application, are activities which have the potential to adversely affect the environment. Therefore the proponent will be required to contact specific agencies and the public where certain components of the environment could be affected (see Opportunities for Public and Government Agency Involvement in Planning, Appendix II). The level of planning and documentation will be governed by the concerns raised during the mandatory contact. There is no mandatory requirement for an ESR. There is, however, a bump-up provision associated with these activities and this provision is outlined in Schedule "B" of Appendix I.

Sludge transfer lagoons/stations for the storage of sewage treatment plant sludges to be subsequently utilized on agricultural lands over an area exceeding 50 ha for each annual sludge application are activities which have the potential to significantly adversely affect the environment and will be subject to the full planning and documentation requirements of the sewage Class EA. (See Schedule "C", Appendix I.)

Sludge Disposal

Sludge can be managed through disposal activities such as landfilling or incineration.

The activity of disposing of sludge at existing landfill or incineration sites which are certified under the Environmental Protection Act for sludge disposal at the time of the proposal to landfill or incinerate is an activity which will have minimal adverse effects on the environment. Therefore, at the proponent's discretion the full planning and documentation requirements of the MOE Class EAs need not be followed for these types of sludge management activities. There is no mandatory contact, nor is there a bump-up provision associated with these types of activities. (See Schedule "A", Appendix I.)

The activity of disposing of sludge at existing landfill or incineration sites which are not certified under the Environmental Protection Act for sludge disposal at the time of the proposal to landfill or incinerate is an activity which has the potential to adversely affect the environment. The determination of the significance of such effects must be based on consultation with potentially affected government agencies and members of the public. Therefore, the proponent will be required to contact specific agencies and the public where certain components of the environment could be affected (see Opportunities for Public and Government Agency Involvement in Planning, Appendix II). The level of planning and documentation

will be governed by the concerns raised during the mandatory contact. There is no mandatory requirement for an ESR. There is, however, a bump-up provision associated with these activities, and this provision is outlined in Schedule "B" of Appendix I.

The activity of disposing of sludge through the establishment of new landfill sites or new incineration sites is an activity which has the potential to significantly adversely affect the environment and is subject to the full planning and documentation requirements of the Class EAs. (See Schedule "C", Appendix I.)

The Province is in the process of developing guidelines which will establish planning and implementation procedures governing landfilling activities. These guidelines are still in a draft form and until they have been formally adopted, the requirements of the Class EAs must govern sludge landfilling activities. When acceptable guidelines are formally adopted, it is anticipated that the Class EAs will be reviewed for possible amendment respecting the treatment of this activity.

Other Sludge Management Activities

It may be necessary to institute sludge management procedures in order to treat and handle sludge in association with other utilization or disposal operations. Such sludge management activities may take the form of additional sludge treatment facilities such as sludge drying beds, composting operations for agricultural or silvicultural use or incorporation as top dressing into mine tailings sites and landfill sites.

Such sludge management activities, if carried out at the particular treatment plant where the sludge is generated or at existing landfill or incineration sites where the sludge is to be disposed of, which sites are certified under the Environmental Protection Act for the type of sludge management activity proposed, are activities which will have minimal adverse effects on the environment. Therefore, at the proponent's discretion,

the full planning and documentation requirements of the MOE Class EAs need not be followed for these types of sludge management activities. There is no mandatory contact, nor is there a bump-up provision associated with these types of activities. (See Schedule "A", Appendix I.)

Sludge management activities carried out at a treatment plant where all of the sludge to be managed was not generated (e.g., a central composting operation servicing a number of plants), or at existing landfill or incineration sites where the sludge is to be disposed of, which sites are not presently certified under the Environmental Protection Act for the type of sludge management activity proposed, are activities which have the potential to adversely affect the environment. Therefore, the proponent will be required to contact specific agencies and the public where certain components of the environment could be affected (see Opportunities for Public and Government Agency Involvement in Planning, Appendix II). The level of planning and documentation will be governed by the concerns raised during the mandatory contact. There is no mandatory requirement for an ESR. There is, however, a bump-up provision associated with these activities, and this provision is outlined in Schedule "B" of Appendix I.

Sludge management activities involving situations other than those described above (e.g., sludge drying beds not located at the sewage treatment plant or at the final site of sludge disposal/composting sites), are activities which have the potential to significantly adversely affect the environment and are subject to the full planning and documentation requirements of MOE Class EAs.

The Province is in the process of developing guidelines which will establish planning and implementation procedures governing sludge composting activities. These guidelines are still in a draft form and until they have been formally adopted, the requirements of the sewage Class EA must govern sludge composting activities. As with landfilling activities, these requirements will be reviewed once the formal composting guidelines are in place.

B. OPPORTUNITIES FOR PUBLIC AND GOVERNMENT AGENCY
INVOLVEMENT THROUGHOUT THE PLANNING

B1. Purpose and Techniques for Effective Participation

The purpose of providing opportunities for government agencies and the public to participate in planning is to allow for the exchange of ideas between MOE and those parties having the potential to be affected by an undertaking. Such an exchange will help to avoid controversy while broadening the information base in order to better facilitate good decision making. The solicitation of input from government agencies and the public should be an ongoing exercise throughout project planning. To ensure that the concerns of those potentially affected by an undertaking are identified for consideration at the point in time where input can be most effective, certain mandatory points of contact are built into the planning requirements of the Class EAs. These points of contact are set out in Section B2 below.

Contact with government agencies and the public may involve a variety of approaches. The nature of the contact should be tailored to the scope of the proposed project, scale of the potential effects and timing of the development of the planning for that project. Information about a project and the opportunities being offered for government agency or public participation can be presented utilizing methods ranging from general newspaper advertisement and public information or drop-in centres to more specific meetings with government agencies or local neighbourhood residents and locally targeted questionnaire mail-outs. Where a project's planning has reached the stage where specific government agencies and members of the public who have the potential to be affected by the undertaking can be identified (e.g. Regional Archaeologist of the Ministry of Culture or Recreation, property owners adjacent to a preferred site), contact may involve very specific, one-on-one approaches such as individual letters or telephone conversations.

Where a government agency or member of the public is being contacted for the first time, the contact will include an explanation of the relationship of the planning exercise to the EA Act (e.g. information on the appropriate Class EA procedures being followed, including the future points of contact which that party may wish to avail themselves of, and the mechanisms whereby the particular project may be elevated to the status of an individual environmental assessment - bump-up). As well, information will be presented on the project itself and the planning that has been conducted to date (e.g. information on the need for the project and the planning and design details formulated to date). The contact will provide the introduction to the forum in which potential impacts and local sensitivities can be discussed. Presumably, parties being contacted may simply be referred to the location of the appropriate public record maintained at MOE's District Office or other convenient locations to obtain documentation on the planning that has been conducted to date. In addition, it is most important that the parties being contacted be provided with the name and location of the appropriate authority in MOE, the municipality or appropriate consulting firms who can speak to the planning that has been conducted to date and the status of the project under the appropriate Class EA.

When outlining the opportunities for participation in a project's planning, MOE will make it clear that the onus is on the party being contacted to determine whether that party wishes to remain involved in the planning process. If, within a specified, reasonable period following the time of contact, MOE does not receive an indication of a desire to remain involved, MOE will be under no obligation to provide further contact with that party throughout the remainder of planning unless that party takes the initiative at a later stage to be put back on the list of people to be contacted.

B2. Mandatory Contacts to be made with Government Agencies and the Public

It is necessary that there be certain mandatory contacts made with all potentially affected government agencies and the public in order to ensure that input can be considered at the most effective point in a project's planning. The points where contact will be made are as follows:

1. Prior to the issuance of an Internal Memorandum on Sewage or Water Treatment Alternatives.
2. Prior to the acceptance of a Conceptual Brief.
3. Prior to the acceptance of a Design Report.
4. At the time of submission of an Environmental Study Report.
5. At the time of submission of a Revision to an Environmental Study Report.

Obviously all five opportunities for contact will not exist for every project that might be planned under the Class EAs. It is not usual to prepare internal memorandums on alternatives or conceptual briefs for projects which are relatively small in scale. Contact number 5 will only be made in the event that a significant change is proposed in a project that has already been planned. Therefore, for the majority of projects, mandatory contact will be made during the development of the design report and, depending upon the response to this contact, at the time of submission of the Environmental Study Report.

MOE will ensure that contacts are made far enough in advance so as to provide the parties being contacted with an adequate opportunity to review the planning documentation that has been compiled to that point. The length of time to be provided will be based upon the scope of the project, the complexity of the planning documentation, the urgency of the need to solve the problem at hand, and the desires, in terms of review time, of

the various government agencies and members of the public who wish to be involved in planning.

No minimum review periods are specified for contacts numbers 1, 2, and 3. However, MOE will ensure that those government agencies and members of the public who have expressed a specific desire to remain involved in planning and any government agencies and members of the public who have the potential to be affected by an activity but who have not been previously contacted, are contacted at the time of submission of an ESR. Timing for this contact will provide parties with at least thirty days to review the ESR. MOE will not act to establish the undertaking (e.g. award tenders for construction) prior to the termination of the thirty-day period. Unless a longer period is provided for in the notice, anyone wishing to make a submission will have to ensure that it is received by MOE not later than 30 days after notice is given (37 days after the mailing of the notice, where the notice is given by prepaid mail).

Where an addendum to an ESR is necessary, MOE will contact all parties having the potential to be affected by the proposed changes to the project. Timing for this contact will provide parties with at least five working days to review the addendum. MOE will not act to establish any component of the project which is affected by the subject of the addendum prior to the termination of the five working day period. Unless a longer period is provided for in the notice, anyone wishing to make a submission will have to ensure that it is received by MOE not later than seven days after notice is given (14 days after mailing of the notice, where the notice is given by prepaid mail).

Appendix II outlines the situations in which particular government agencies and members of the public will be contacted.

Where the proponent is of the opinion that because the persons who are to be given any notice are so numerous, or for any other reason it is impractical to give the notice to all or any of the persons individually, the proponent may instead of doing so, cause the notice to be given to the persons by public advertisement or otherwise as the proponent may direct, and the date on which such notice is first published or otherwise given as directed shall be deemed to be the date on which the notice is given.

In the event that a project is being proposed in response to an emergency, MOE may elect to shorten the thirty and five day review periods referenced above. The periods may also be shortened if MOE obtains a consent to do so from all persons having the potential to be affected by the project.

C. RELATED LEGISLATION AND HEARINGS PROVISIONS

C.1 Hearings under the Environmental Assessment Act,
Environmental Protection Act, and Ontario Water Resources Act

Although the O.W.R.A. does not directly bind the Crown, the statement in the Class Environmental Assessment that the Crown will follow its provisions has the effect of making it binding with respect to activities forming part of the Class undertakings. The Environmental Assessment Act provides for the elimination of possible duplicate hearings under the Environmental Assessment Act and the Ontario Water Resources Act and the Environmental Protection Act. Under Section 34 of the Environmental Assessment Act where there is a possibility of duplicate hearings, the Minister is required to make an order. The order can either prohibit the hearing under the other Act (EPA or OWRA) and provide that the Environmental Assessment Act applies, or permit the hearing under the other Act and provide that all or certain provisions of the Environmental Assessment Act do not apply. The Minister of the Environment will be asked to make an order that the hearings under the Ontario Water Resources Act and the Environmental Protection Act, where applicable to the undertaking or parts of it, be prohibited. This will leave the possibility of Environmental Assessment Act hearings. If hearings are required with respect to the undertakings dealt with in the Class Environmental Assessments, they will be held under the Environmental Assessment Act rather than under the other statutes. If hearings are to be held with respect to individual projects, they would have been bumped up out of the undertaking approved under these Class Environmental Assessments and will be proceeding as individual undertakings subject to individual environmental assessments.

C.2 Hearings under Other Statutes

Individual projects which are not bumped up and are proceeding under the Class Environmental Assessment may be subject to hearings under other statutes. These include such statutes as the Expropriations Act, the Ontario Municipal Board Act, and the Planning Act.

C.3 Application of the Consolidated Hearings Act, 1981

Where it appears likely that more than one hearing before more than one tribunal will be held under the Acts listed in Section C.2 or under any other Acts listed in the Schedule of the Consolidated Hearings Act, 1981, for an activity included in one of the Class undertakings, the proponent may give a notice under the Consolidated Hearings Act, 1981, which would result in all of those hearings being carried out and the decisions which are made as a result of such hearings being made by a joint board under the Consolidated Hearings Act, 1981. The Consolidated Hearings Act might also be applied in the case of a project which has been bumped up and is being treated as a separate undertaking and for which an individual environmental assessment is done.

D. CLASS EA TREATMENT OF THE ACTIVITY OF
PROPERTY ACQUISITION

Further consideration has been given to the question of when, during the course of project planning, properties should be acquired.

When considering this issue, the first point which should be recognized is the fact that full public participation in the planning process may aggravate and inflate the cost of land acquisition. With advance notice that a property is under consideration, any landowner may inflate the asking price beyond the true market value. While expropriation proceedings allow for property acquisition at true market value, the current policy of MOE is to strive for a negotiated sale.

Optioning of land has been considered as a mechanism to avoid the problems of property speculation. Unfortunately, it has been MOE's experience that in Southern Ontario a six-month option is the longest that can normally be obtained. One-year options can still be obtained in Northern Ontario. Unfortunately, the planning process for most sewage and water facility projects cannot be completed within this short time frame. Options which were taken out to protect against speculation expire before planning is completed and documented. Renewals of expired options do not avoid escalated asking prices since, at the time the option expires, the landowner is fully aware of the desires of the purchaser and, in fact, may be aware that his land has special values for the purchaser.

One must also consider whether the fact of ownership of a particular property constitutes an irreversible commitment to siting a sewage or water facility on that property, over other sites which may be more suitable in terms of criteria other than real estate cost. It has been MOE's experience that for the majority of sewage and water facility projects, completion of costly final engineering design plans and specifications

constitutes far more of a commitment to a particular alternative than does property acquisition costs (which costs, in most cases, can often be recovered through the sale of any properties found to be inadequate). Land costs are typically small compared with final engineering design cost.

MOE believes that the objective consideration of alternatives is not compromised where MOE makes certain that a site is generally acceptable, both from an engineering and an environmental point of view, before the site is acquired. General acceptability will be established through comprehensive planning involving contact with potentially affected government agencies and the public during the development of a project's design report. Where a site is acquired and further on site engineering studies, environmental studies, or information obtained through public and government agency contact demonstrate that a site is not acceptable, the lands could be re-sold and other alternatives will be investigated further.

A second potentially negative aspect associated with the acquisition of property in advance of MOE obtaining all approvals for a project, is the effect that MOE ownership might have on surrounding land use and the use being made of a site itself over the period of time from acquisition to project construction (or sale of the site in the event it becomes apparent that the site is not adequate). For example, MOE might acquire a site and in anticipation of impending project construction, terminate the current agricultural use being made of that site. As a result of an unforeseen delay in project development or changes in the project itself as a result of final engineering design, a new site might be selected. The original site would be sold but agricultural opportunities would have been lost over the period of time the site was in MOE's possession. In addition, the use being made of surrounding lands may be changed in response to the changes occurring on MOE's site.

In order to avoid the situation described above and protect against the additional costs which may be imposed through property speculation, and at the same time ensure that property ownership does not bias the objective consideration of alternatives, it is a requirement of the Class EAs that MOE act in the following manner in respect of property acquisition:

- i. MOE may option property at any point during a project's planning;
- ii. MOE will only acquire property during or after the final phase of the preliminary design stage. Property will not be acquired until after a design report has been accepted and a Certificate of Approval with Conditions has been issued;
- iii. MOE will not institute a substantial change in use of a property which has been acquired except where the change in use is an activity which is in compliance with the EA Act.
- iv. Notwithstanding paragraph (ii) above, MOE may acquire property during the final phase of the preliminary design stage in cases where the transfer of land is being initiated by the owner of the land in a hardship situation.

E. CONSTRUCTION GUIDELINES

It is a requirement of the Class EAs that Contract Documents contain provisions respecting the manner in which the adverse effects of construction activities are to be mitigated. These provisions will reflect the spirit and intent of the appropriate sections of the document: "Environmental Considerations for Planning the Construction of Provincial Sewage and Water Projects, Ontario Ministry of the Environment, August 1982". These guidelines were developed to provide assistance to planners, construction supervisors, and contractors during the drafting and carrying out of construction agreements.

These guidelines are published as Appendix IV of this document. The original version of these guidelines was published in February 1977. Appendix IV is a revision to the original document and the second edition, November 1980 which incorporates the appropriate construction techniques that had been developed and presented in the following documents:

- "Standard Specifications for the Construction of Sewers and Watermains", Ministry of the Environment, as revised, 1980.
- Ontario Hydro "Construction and Site Restoration Guidelines for Transmission Facilities", Draft - February 15, 1980.
- "Environmental Quality Implementation Handbook, for Ministry of Natural Resources Dams and Dykes, December 1979.
- "Environment, Agricultural and Resource Guidelines for the Construction and Operation of Pipelines in the Province of Ontario", Ontario Energy Board, September 1976.
- "Highway Construction Practices and Potential Environmental Concerns", Ministry of Transportation and Communications, 1978.
- "Field Environmental Protection Concerns for Construction Staff", Ministry of Transportation and Communications, 1976.

In order to incorporate new techniques for mitigating adverse construction effects into MOE's construction practices, MOE will undertake to periodically review and amend the construction guidelines. Amendments will be instituted utilizing the mechanisms for amending the Class EAs, described in Section I, below.

F. MONITORING PROGRAMME REQUIREMENTS

F.1 Purpose for Monitoring Programmes

Monitoring and inspection provides an accounting mechanism for proponents, consultants, contractors, Government agencies, and the public to learn from successes and failures associated with the implementation of an activity.

A good monitoring and inspection programme promotes continued improvements in project planning, construction, and operation. This could decrease the incidence of environmental damage and could potentially avoid contentious issues and possibly prosecutions. It also has the beneficial effect of increasing the credibility of the proponent.

Monitoring and inspection ensures that there is direct feedback from what is actually experienced in the field to what was predicted in the project planning phase. Thus, the Environmental Study Report (ESR) impact predictions can be re-evaluated and improved from project to project. Also, unexpected impacts that occur during a project's implementation can be identified and action taken to mitigate negative effects. Monitoring is one mechanism whereby the need for an addendum to an ESR can be identified.

The examination of impacts on a more scientific and quantifiable basis can lead to better knowledge and decision-making concerning the level or extent of mitigation necessary to ameliorate negative environmental impacts, and enhance the benefits associated with an undertaking.

F.2 Monitoring Programme Requirements for Construction Activities

The ESR will provide an accurate description of conditions which exist prior to the implementation of the undertaking. The anticipated effects of construction of the undertaking and the proposed actions to mitigate those effects will be predicted.

The ESR will outline a programme which will monitor the key impacts expected to be associated with a project's implementation. If no significant impact, positive or negative, is predicted, which could frequently occur with minor extensions to sewage and water projects, the ESR would indicate that the proponent does not foresee a need to monitor key impacts, since none have been identified, and a monitoring report will not be prepared.

If a monitoring and inspection programme is considered necessary, the proponent will be responsible for outlining in the ESR a programme that satisfies the following requirements:

- A definition of the objectives of the monitoring and inspection programme.
- A clear indication of the key impact predicted that will be monitored during and immediately following construction; i.e. maintenance period.
- An outline of the information required to evaluate the cause and effects of each impact to be monitored in order that the successes and failures of the measures selected to avoid or mitigate the predicted adverse environmental effects of the undertaking during all phases of construction, can be examined. This shall include, but not be limited to, the frequency and timing of surveys, location of monitoring sites or areas, methods of data collection, analysis and evaluation.
- The expected reporting production format and date(s) of filing shall be identified in the ESR.

Monitoring documentation shall be prepared based on the above-noted requirements. This monitoring documentation shall draw conclusions and make recommendations. In certain instances, it may be necessary or be desirable to submit monitoring documentations during the construction phase. The documentation may be in the form of a report(s) or letter(s).

All monitoring documentation shall be filed in the Public Records at the same location as the ESR for the specific activity to which it applies.

F.3 Monitoring Programme Requirements
for Operational Activities

With regard to the monitoring of operational activities of sewage treatment plant effluents, the monitoring of plant effluent will be consistent with the Proposed Policy No. 08-06: Policy to Govern Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Plant Works. TUMMIS will evaluate on a continuous basis whether the effluent quality is in compliance with the effluent quality as established in accordance with Appendix "C", "Procedural Guidelines for Incorporation of Effluent Requirements into Certificate of Approval for Municipal and Private Sewage Treatment Works of Proposed Policy No. 08-01: Policy to Govern the Level of Treatment Required at Municipal and Private Sewage Treatment Works Discharging to Surface Waters".

Monitoring of treated water quantity and quality will be done through the TUMMIS programme as outlined in the Ontario Drinking Water Objectives and the following three proposed policies: Minimum Treatment Requirements for Potable Water Production from Surface Water Sources; Minimum Treatment Requirements for Potable Water Production from Ground Water Sources; and The Requirements for Continuous Monitoring of Potable Water Quality.

In addition to the requirements for quality monitoring of treated water, effluent, and sludge, other parameters as deemed necessary and described in the ESR can be monitored by plant personnel on a routine basis.

All information as described above is public information and can be obtained by contacting the appropriate Regional Office of the Ministry of the Environment.

For special cases, as identified during the planning process and documented in the ESR, a special monitoring programme may be required to evaluate the success of the implementation of a project. For example, an upgrading at a sewage treatment plant can be the result of odour complaints received. At a water treatment plant, an upgrading may consist of measures directed at energy conservation. A specific monitoring programme would be established during the preparation of the ESR. This monitoring programme would assess whether the objectives of the upgrading have been met. In certain circumstances, this may involve contact with the public.

Where a specific operational activity monitoring programme is established, the proponent will be responsible for outlining in the ESR a programme that satisfies the following requirements:

- A definition of the objectives of the monitoring programme.
- A clear indication of the key impact predicted that will be monitored after the completion of the upgrading and/or expansion.
- An outline of the information required to evaluate the cause and effect of the impact to be monitored in order that the success or failure of the upgrading and/or expansion can be examined. This shall include but not be limited to the frequency and timing of surveys, location of monitoring sites, methods of data collection analysis, and evaluation.

- The expected reporting production format and dates of filing shall be identified in the ESR.

Where specific monitoring documentation on operational activities is considered necessary, this monitoring documentation shall be filed in the public records at the same location as the ESR for the specific undertaking to which it applies.

If no specific monitoring programme for operational activities is considered necessary, the routine monitoring programme will apply, and this will be stated in the ESR.

G. PROVISION FOR CHANGING PROJECT STATUS - BUMP-UP

G.1 Bump-up into Individual Environmental Assessments

MOE has recognized the fact that specific steps for reviewing and making decisions respecting the elevation of projects up out of the Class EA and into individual EA status must be established as part of the Class EA procedures. Therefore, it is a requirement of the Class EAs that the procedure for bumping a project up out of the Class EAs' approval will be as follows:

- i. A person with a concern must, first of all, bring it to the attention of the contact person within MOE who has been identified for the project;
- ii. If the concern is not resolved through discussions with the proponent, the person can request that the proponent initiate a "bump-up";
- iii. If the proponent refuses to voluntarily remove the project from Class EA approval and treat it under individual EA requirements, and the person with the concern wishes to pursue the bump-up, he may request the Minister of the Environment to direct the proponent to do an individual environmental assessment for that project;
- iv. The Minister would obtain arguments from both parties and would make a decision;
- v. If the Minister agreed to bump the project up, the Minister would give notice with reasons to the proponent and the person requesting the bump-up that the Class EA approval does not apply to the specific project under discussion. The proponent would then be required to prepare and submit an individual EA for that project, resolve the issue with the person requesting the bump-up; or defer the project;

- vi. If the Minister did not agree to bumping the project up, he would give notice with reasons to the person requesting the bump-up and the proponent.

Note:

Although a proponent is free to continue to plan and implement a project up until the actual point that notice is received that the project has been bumped-up, it is anticipated that the proponent will cease project implementation immediately upon becoming aware of an outstanding concern, will co-operate in any attempts to resolve the concern and will await a resolution of any bump-up decision, prior to proceeding in the appropriate fashion.

The bump-up procedure may be initiated at any time during the planning process up to the termination of the 30-day ESR review period or the five-day ESR addendum review period (or such longer or shorter periods as may be established, see pages 24 and 25).

It is expected, however, that anyone having a concern would bring this concern to the proponent's attention early in the planning process when the proponent has maximum flexibility to deal with the concern. An obvious delay in bringing forward a concern and subsequent request for bump-up is not as likely to be as effective as a concern identified early in the planning process.

If a governmental mechanism is established outside of MOE to deal with requests for bump-up, proposals to amend a Class EA and other matters under the EA Act, the Minister may transfer the authority to make bump-up, amendment, and such other decisions to that body.

G.2 Intermediate Bump-up Provisions

As set out in Schedule "A" and Schedule "B" of Appendix I, any project may be elevated from Schedule "A" status to Schedule "B" status and from Schedule "B" status to Schedule "C" status at the proponent's discretion.

The Minister, if he decides to turn down a request for individual bump-up, may decide to elevate a project from Schedule "B" status to Schedule "C" status.

H. REVISIONS AND ADDENDA TO ESRs

MOE has recognized the fact that the Class EAs must establish a specific mechanism for bringing significant changes in a project's design or manner of implementation (construction and/or operation) from that which was originally described in the ESR submitted on the project, to the attention of those parties having the potential to be affected by such changes. Therefore, it is a requirement of the Class EAs that the procedure for instituting such a change be as follows:

- i. A change will be discussed with all government agencies and the public having the potential to be affected by the change.
- ii. If, as a result of these discussions, it is determined that the change constitutes a significant deviation in the project's design or manner of implementation, an addendum to the ESR will be written. This addendum will describe the circumstances necessitating the change, the environmental implications of the change and what, if anything, can and will be done to mitigate any negative effects. The addendum will be filed with the ESR and notice of the filing of the addendum will be given immediately to all affected parties. There will be five working days following the giving of notice of filing of the ESR addendum to allow affected parties to review the proposed change and respond to the proponent (see also Page 24). The change can be instituted following the termination of the review period; and
- iii. If, as a result of consultation, the change is not considered to be significant, an addendum need not be prepared and the change could be instituted immediately.

A significant delay may occur between the completion of the design process and the implementation of the project. In such cases, a review of the design process will be carried out to ensure that the proposed project and any environmental mitigation is still valid. If significant modification of the proposed project or any additional environmental mitigation is appropriate, an addendum to the Environmental Study Report will be prepared and notice given.

Note: Implementation of those portions of the project which are the subject of an addendum, or have the potential to be directly affected by the proposed change will cease and will not be re-activated until the termination of the five-day review period.

I. CLASS EA AMENDMENT PROCEDURE

MOE has recognized the fact that a mechanism to "fine tune" the Class EAs must be established. The purpose of an amending procedure is to allow for modifications to the Class EAs and their approval after experience with the application of the Class EA procedures has been gained. The reasons for such modifications may include: the need to clarify ambiguous areas of the documents and their procedures if these cause problems; to streamline the planning process in areas where problems may have arisen; or to extend the application of the Class EAs to types of projects that were not previously included. Therefore, it is a requirement of the Class EAs that the procedures for amending the Class EAs and their approval be as follows:

- i. Anyone who feels that an amendment to the Class EAs should be made can bring the particular concern, the reasons for that concern, and the proposed change to the attention of the Minister of the Environment.
- ii. The Minister will be authorized to make or deny changes to the document without seeking further Cabinet authorization.
- iii. The Minister may wish to have major changes considered by Cabinet. Anyone will be able to require that the Minister refer a particular change to Cabinet for its consideration.
- iv. Prior to making any changes to the Class EAs, the Minister will issue a notice of the proposal to make the change to any potentially affected government agencies or the public and allow for comments. Based on these comments, the

Minister may choose to declare the change to be with respect to a new undertaking, and in order to effect the change, a new environmental assessment would have to be submitted for review and approved under the EA Act; and

- v. If the Minister considers that the change is not significant enough to require a new EA, MOE will document the change in all Class EA documents on public record and the change will be instituted.

A P P E N D I X I

SCHEDULES A, B, & C

APPENDIX I

SCHEDULE A

Sewage Projects

- Increasing pumping station capacity by adding or replacing equipment and appurtenances, where the new equipment is located within the same shell or housing containing the existing pumping equipment.
- Installation of new standby power equipment or increasing standby power capability by the replacement of existing standby power equipment, where the new equipment is located within the same shell or housing containing the existing standby power equipment.
- Extend existing sewage collection system in road allowances, easements, or utility corridors shown on approved draft plans of subdivision or approved plans of subdivision.
- Utilization of sewage treatment plant sludges on agricultural lands in accordance with "Guidelines for Sewage Sludge Utilization on Agricultural Lands", including the establishment of new sludge utilization sites.
- Establish sludge storage lagoon/basin at existing STP, where sludge generated.
- Establish sludge storage lagoon/basin at soil conditioning site where sludge utilized.
- Commence disposal of sludge at existing landfill or incineration sites, which are certified under the Environmental Protection Act for sludge disposal.
- Establish sludge management activity at existing STP where sludge generated.

- Establish sludge management activity at existing landfill, incineration, or utilization sites, where sludge is to be disposed of/utilized, which sites are certified for the type of sludge management activity proposed.

Water Projects

- Increasing pumping station capacity by adding or replacing equipment and appurtenances where the new equipment is located within the same shell or housing containing the existing pumping equipment.
- Installation of new standby power equipment or increasing standby power capability by the replacement of existing standby power equipment, where the new equipment is located within the same shell or housing containing the existing standby power equipment.
- Replace existing well with a new well or deepen existing well at an existing well site property.
- Extend existing water distribution system in road allowances, easements, utility corridors shown on approved draft plans of subdivision, or approved plans of subdivision.
- Establish sludge storage lagoon/basin at existing WTP, where sludge generated.
- Commence disposal of sludge at existing landfill or incineration sites, which are certified under the Environmental Protection Act for sludge disposal.
- Establish sludge management activity at existing WTP, where sludge generated.

- Establish sludge management activity at existing landfill or incineration sites where sludge is to be disposed of, which sites are certified for the type of sludge management activity proposed.

- NOTES:
- (1) Since the activities listed in Schedule "A" are considered to have minimal adverse effect on the environment, there is no mandatory contact or documentation requirement for this category of activity, nor is there a bump-up provision associated with these activities.
 - (2) Any Schedule "A" undertaking may be elevated to Schedule "B" status at the proponent's discretion.

APPENDIX I

SCHEDULE B

Bump-up Provision and Mandatory Contact Requirement

The purpose of a "bump-up" provision being attached to the mandatory contact requirement is to allow for individual environmental assessments for activities which would otherwise be part of the undertaking approved under these Class EAs, but which have significant negative environmental effects.

The procedure for "bump-up" is outlined in Section G of this Amendment.

"Bump-up" requests for projects handled by means of the Mandatory Contact Requirement (see below) may occur up to 30 calendar days after the project has been drawn to the attention of the appropriate agencies and members of the public. When a bump-up request has been received, the project could be elevated to Individual EA Status.

Intermediate Bump-up Provision

Any Schedule "B" activity may be elevated to Schedule "C" status at the proponent's discretion or by the Minister, if he decides to turn down a request for individual bump-up.

Mandatory Contact Requirement

In the case of public notification for the projects that are listed in this schedule, the notification will be made early in project planning.

The proponent may select the method of notification that is appropriate for the specific project under consideration. The methods could range from individual notification to newspaper notices. It is important that those potentially affected by the project are notified early enough in the process that their comments can be reflected in project planning.

Sewage Projects

- Extend existing sewage collection system in existing road allowances, utility corridors or easements not shown on approved draft plans of subdivision, or approved plans of subdivision.
- Increase size of existing communal septic tank or tile field at substantially the same location.
- Extend, enlarge existing outfall, or provide an additional outfall.
- Provide additional treatment facilities in existing lagoon, such as aeration, chemical addition, post-treatment.
- Increase pumping station capacity by adding or replacing equipment where a new structure is required for the new equipment.
- Installation or replacement of standby power equipment where a new structure is required for the new equipment.
- ✓ - Expand sewage treatment facility up to existing rated capacity.
- Add flow equalization tankage at existing sewage treatment plant for influent and/or effluent control.
- Expand buffer zone between lagoon facility or land treatment area and adjacent uses.
- Utilization of sewage treatment plant sludges on non-agricultural lands.
- Establish sludge transfer lagoon/station for storage of sewage treatment plant sludge to be subsequently utilized on agricultural lands not exceeding 50 ha for each annual sludge application, where soil conditioning sites are not located on the same property as the sludge transfer lagoon/ station.

- Commence disposal of sludge at existing landfill or incineration sites, which are not certified for the disposal of sludge.
- Establish sludge management activity at existing STP, where sludge is not generated.
- Establish sludge management activity at existing landfill, incineration or utilization sites, where sludge is to be disposed of/utilized, which sites are not certified for the type of sludge management activity proposed.

Water Projects

- Extend existing water distribution system in existing road allowances, utility corridors, or easements not shown on approved draft plans of subdivision or approved plans of subdivision.
- Extend, enlarge existing intake or add additional intake.
- Establish facilities for disposal of treatment wastes (e.g. install sewer connection, construct holding pond, dewatering and hauling operations to disposal sites.
- Increase pumping station capacity by adding or replacing equipment where a new structure is required for the new equipment.
- Installation or replacement of standby power where a new structure is required for the new equipment.
- Increase existing storage capacity by addition or replacement at substantially the same location.
- Expand the water treatment plant up to existing rated capacity.
- Establish new wells at the existing well site property.

- Commence disposal of sludge at existing landfill or incineration sites, which are not certified for the disposal of sludge.
- Establish sludge management activity at existing WTP, where sludge is not generated.
- Establish sludge management activity at existing landfill or incineration sites, where sludge is to be disposed of, which sites are not certified for the type of sludge management activity proposed.

- Commence disposal of sludge at existing landfill or incineration sites, which are not certified for the disposal of sludge.
- Establish sludge management activity at existing STP, where sludge is not generated.
- Establish sludge management activity at existing landfill, incineration or utilization sites, where sludge is to be disposed of/utilized, which sites are not certified for the type of sludge management activity proposed.

Water Projects

- Extend existing water distribution system in existing road allowances, utility corridors, or easements not shown on approved draft plans of subdivision or approved plans of subdivision.
- Extend, enlarge existing intake or add additional intake.
- Establish facilities for disposal of treatment wastes (e.g. install sewer connection, construct holding pond, dewatering and hauling operations to disposal sites.
- Increase pumping station capacity by adding or replacing equipment where a new structure is required for the new equipment.
- Installation or replacement of standby power where a new structure is required for the new equipment.
- Increase existing storage capacity by addition or replacement at substantially the same location.
- Expand the water treatment plant up to existing rated capacity.
- Establish new wells at the existing well site property.

- Commence disposal of sludge at existing landfill or incineration sites, which are not certified for the disposal of sludge.
- Establish sludge management activity at existing WTP, where sludge is not generated.
- Establish sludge management activity at existing landfill or incineration sites, where sludge is to be disposed of, which sites are not certified for the type of sludge management activity proposed.

APPENDIX I

SCHEDULE C

NOTE: The bump-up provision as described in G.1 of this amendment applies to this category of project.

Sewage Projects

- Extend existing sewage collection system not in existing road allowances, easements, or existing utility corridors.
- Expand existing sewage treatment plant beyond existing rated capacity.
- Add additional lagoon cells to an existing sewage facility.
- Establish an outfall in a new receiving water body.
- Provide for land application of effluent through spray irrigation system, overland flow, or marsh treatment.
- Construct new storm water retention and detention ponds.
- Establish sludge transfer lagoon/station for storage of sewage treatment plant sludges to be subsequently utilized on agricultural lands exceeding 50 ha for each annual sludge application, where soil conditioning sites are not located on the same property as the sludge transfer lagoon/station.
- Commence sludge disposal at new landfill site or new incineration site.
- Establish sludge management activities other than those described in Appendix I, Schedules "A" and "B".

Water Projects

- Extend existing water distribution system not in existing road allowances, easements, or existing utility corridors.
- Expand existing water treatment plant beyond existing rated capacity.
- Utilize a new surface water source.
- Establish a new well at sites other than an existing well site.
- Artificially recharge an existing aquifer with surface water.
- Establish new water storage facilities at sites other than those wherein there already exists a water storage facility or at sites which are not within a road allowance or utility corridor.
- Commence sludge disposal at new landfill site or incineration site.
- Establish sludge management activities other than those described in Appendix I, Schedules "A" and "B".

A P P E N D I X I I

APPENDIX IIOPPORTUNITIES FOR PUBLIC AND GOVERNMENT AGENCY
INVOLVEMENT IN PLANNING

<u>Situation</u>	<u>Example</u>	<u>Contact</u>
<u>Works directly affecting:</u>		
Permanent water-courses and water bodies	<ul style="list-style-type: none"> - streams, creeks - marshes, bogs - lakes, ponds 	<ul style="list-style-type: none"> - Conservation Authority - Ministry of Natural Resources' District Office - Ministry of the Environment District or Regional Office
Groundwater	<ul style="list-style-type: none"> - wells, aquifers - groundwater recharge areas 	<ul style="list-style-type: none"> - Local Health Unit, Medical Officer of Health, - MOE District or Regional Office
Rare, endangered or significant assemblage of wildlife fish and plant species	<ul style="list-style-type: none"> - list pursuant to the Endangered Species Act - game species - regionally significant wildlife, fish or flora 	<ul style="list-style-type: none"> - MNR, District Office - Conservation Authority
Environmentally sensitive area	<ul style="list-style-type: none"> - sensitive area as identified in MNR's or Conservation Authority's plans 	<ul style="list-style-type: none"> - MNR, District Office - Conservation Authority
Hazard Lands	<ul style="list-style-type: none"> - unstable soils - steep slopes - floodplain land 	<ul style="list-style-type: none"> - MNR, District Office - Conservation Authority
Woodlots	<ul style="list-style-type: none"> - Agreement Forests 	<ul style="list-style-type: none"> - MNR, District Office
Ornamental or Street Trees	<ul style="list-style-type: none"> - trees on provincial land 	<ul style="list-style-type: none"> - Owner of property immediately adjacent to lands containing trees

<u>Situation</u>	<u>Example</u>	<u>Contact</u>
<u>Works directly affecting:</u>		
Recreational Areas	<ul style="list-style-type: none"> - Provincial Parks and park reserves - Conservation areas - Niagara Parks Commission - National Parks 	<ul style="list-style-type: none"> - Owner of recreational property
Tourist Facilities	<ul style="list-style-type: none"> - motels, - restaurants - scenic lookouts 	<ul style="list-style-type: none"> - Ministry of Industry and Tourism
Historical or Archaeological Resources	<ul style="list-style-type: none"> - historic buildings/bridges - Scenic areas - historic archaeological sites - historic regions, e.g., <ul style="list-style-type: none"> - Canada - Ontario - Rideau-Trent-Severn Corridor 	<ul style="list-style-type: none"> - Ministry of Culture and Recreation, Regional Archaeologist - Local Heritage or Historical Group including local Architectural Conservation Advisory Committee
Social Service Facilities	<ul style="list-style-type: none"> - homes for the aged - children's mental homes - group homes, etc. 	<ul style="list-style-type: none"> - Ministry of Community and Social Services, District Office
Transportation Services Facilities	<ul style="list-style-type: none"> - highways - navigable waters/harbours - St. Lawrence Seaway - airports 	<ul style="list-style-type: none"> - Ministry of Transportation and Communications, District Office - Federal Department of Transport - International Joint Commission
Utilities	<ul style="list-style-type: none"> - electrical, telephone, oil, gas pipelines - fire route access 	<ul style="list-style-type: none"> - Ontario Hydro - Local Utility Companies - Ministry of the Solicitor General

<u>Situation</u>	<u>Example</u>	<u>Contact</u>
Sensitive or Special Planning Areas	<ul style="list-style-type: none"> - regionally significant growth centres, major industrial parks, sub-divisions - development in Northern Ontario 	<ul style="list-style-type: none"> - Ministry of Municipal Affairs and Housing - Ministry of Industry and Tourism - Ministry of Treasury and Economics - Ministry of Northern Affairs - Royal Commission on the Northern Environment
Class 1 - 4 Agricultural land and Special Agricultural Areas		<ul style="list-style-type: none"> - Ministry of Agriculture and Food, County Agricultural Representative
Niagara Escarpment Planning Area		<ul style="list-style-type: none"> - Niagara Escarpment Commission
Parkway Belt Planning area		<ul style="list-style-type: none"> - Parkway Belt Group - Ministry of Housing
IN ALL CASES (At the earliest appropriate point in project planning)	<ul style="list-style-type: none"> - every situation 	<ul style="list-style-type: none"> - property owners adjacent to project site - local area and Regional Municipalities - potentially affected adjacent municipalities, members of the public and government - MOE, District or Regional Office

A P P E N D I X I I I

SUMMARY TABLE: TREATMENT OF SLUDGE MANAGEMENT ACTIVITIES

UNDER THE CLASS EA

APPENDIX III

Activity	Mandatory Class EA Contacts	Documentation Requirement Bump-up Provision
<u>SLUDGE UTILIZATION</u>		
- Utilization on Agricultural Lands in accordance with "Guidelines for Sewage Sludge Utilitation on Agricultural Lands", including the establishment of new sludge utilization sites	None	No manadatory documentation No bump-up provision;
- Utilization of Sewage Sludge on non-agricultural lands	As per Appendix II	No mandatory documentation; Bump-up provision;
- Sludge storage lagoon/basin at existing STP where sludge generated	None	No mandatory documentation No bump-up provision;
- Sludge storage lagoon/basin located at soil conditioning site where sludge utilized	None	No mandatory documentation; No bump-up provision;
- Sludge transfer lagoon/station for storage of sludge to be utilized on agricultural lands not exceeding 50 ha for each annual sludge applica- tion where soil conditioning sites not located on the same property as sludge transfer lagoon/station	As per Appendix II	No mandatory documentation; Bump-up provision;

Activity	Mandatory Class EA Contacts	Documentation Requirement Bump-up Provision
- sludge transfer lagoon/station for storage of sewage sludge to be utilized on agricultural lands exceeding 50 ha for each annual sludge application where soil conditioning sites not located on the same property as sludge transfer lagoon/station	As per Class EA	ESR mandatory; Bump-up provision;
<u>SLUDGE DISPOSAL</u>		
- at existing certified sites	None	No mandatory documentation; No bump-up provision;
- at existing sites, not yet certified	As per Appendix II	No mandatory documentation; Bump-up provision;
- at new sites	As per Class EA	ESR mandatory; Bump-up provision;
<u>OTHER SLUDGE MANAGEMENT ACTIVITIES</u>		
- at existing STP, where sludge generated	None	No mandatory documentation; No bump-up provision;

Activity	Mandatory Class EA Contacts	Documentation Requirement Bump-up Provision
- at existing disposal/incineration/ utilization sites where sludge disposed/incinerated/utilized (sites certified under EP Act)	None	No mandatory documentation; No bump-up provision;
- at existing STP, where sludge not generated	As per Appendix II	No mandatory documentation; Bump-up provision;
- at existing disposal/incineration/ utilization sites (sites not certified)	As per Appendix II	No mandatory documentation; Bump-up provision;
- at all sites, other than the above	As per Class EA	ESR mandatory; Bump-up provision;

Note: Appendix III should be read in conjunction with Appendix I, Schedules "A", "B", and "C".

APPENDIX IV

ENVIRONMENTAL CONSIDERATIONS FOR
PLANNING THE CONSTRUCTION OF PROVINCIAL SEWAGE
AND WATER PROJECTS

Third Edition

August 1982

Ontario Ministry of the Environment

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INTRODUCTION

The intent of these Guidelines is to provide direction and assistance to the Ministry of the Environment and its agents in planning the detailed design and construction of Provincial sewage and water projects. The guidelines recommend construction procedures that are considered to be consistent with sound environmental practice. They are also intended to inform the public of MOE's recommended practice.

As a matter of standard practice and as a condition of approval under the Environmental Assessment Act of MOE's Class Environmental Assessments for sewage and water projects, MOE will ensure that sewage and water projects are implemented in a manner consistent with these Guidelines.

Some of the items in these Guidelines may have to be expanded or changed for specific projects. Such changes will be documented in the E.S.R. Guidance for such changes will come from MOE in consultation with any potentially affected ministries, agencies, or the public.

In cases where an emergency situation develops which requires a deviation, the same information filing requirements shall apply. However, the information shall be filed immediately after the fact as an addendum to the ESR.

It should be noted that this document is a guide which should be read in conjunction with the sections dealing with environmental considerations which are contained in MOE's document, "Standard Specifications for the Construction of Sewers and Watermains".

1.0 COMMUNICATIONS AND INFORMATION TO "LANDOWNERS"

- 1.1 The proponent or its agent, when performing work on a municipal ROW, will inform by letter the ratepayers in the affected area. This letter will be sent out at least 30 days prior to commencement of construction.

Generally, this letter provides the following information:

- Commencement date of construction.
- Type of work carried out.
- Name of contractor and telephone number.
- Name of Consultant and telephone number of site office.
- Advice on kind of contact the individual can anticipate to receive and reasons for it; e.g. location of service connection, access to property, temporary termination of utility services.

A typical letter is attached as Appendix "A".

- 1.2 The proponent or its agent, when performing work on easements, utility easements or freehold lands (e.g., pumping station site, treatment works site) will inform by letter adjacent or abutting owners. This letter will be sent out at least seven days prior to commencement of construction.

In addition to the same information as outlined in Section 1.1, a more detailed construction schedule will be made available by letter.

Where longer notification times are required, they are subject to special conditions of the easement and will be handled on a specific basis.

- 1.3 Landowner compensation shall be established prior to any construction that affects the property, except in cases where the property has been expropriated.

2.0 WORKING AREAS DELINEATION

The following requirements apply before construction activities commence:

- 2.1 The boundaries of the working area shall be delineated through the use of stakes, snow fencing, or hoarding as appropriate.
- 2.2 Snow fencing shall be placed between construction easements and all water courses, marshes, sensitive areas, trees and shrubs identified for protection, to protect those areas and items from construction activities and equipment. The areas referred to might include: livestock grazing areas, and areas where public safety is of concern. The items referred to specifically include trees and shrubs except those designated for removal. Trees are to have snow fencing installed at the "drip line" or at greater distance from the trunk if necessary. In urban areas, snow fencing will be installed along the drip line where practical.

3.0 CONSTRUCTION WORKYARD AND ACCESS ROUTES

Temporary workyards may be required to serve as sites for storage of material and equipment, maintenance, and miscellaneous work operations, employee parking, and field administration centre.

- 3.1 The amount of yard cleared to establish a construction yard or access route(s) should be kept to the minimum area necessary. Work yards should be as close as possible to main roads for delivery of material and equipment. Location and design of workyard and access roads shall consider present and future land uses.

In cases where the proponent owns or leases the land for the workyard and/or access road, the treatment required to mitigate environmental damage will be specified in the tender documents, which will include any special terms and conditions under the lease.

In cases where the contractor arranges a lease for the establishment of temporary workyards or access roads, the restoration will be subject to the terms and conditions of the agreement between the two parties.

- 3.2 An adequate access route at appropriate locations must be available to cross the right-of-way/easement or temporary work area during all phases of construction so as not to inhibit movement of equipment or animals in an agricultural setting, or people and vehicles in an urban setting. Any open trench for excavation shall be fenced to prevent ready access by the public, live-stock, and other domestic animals.
- 3.3 For safety purposes, public access to the construction yard should be restricted. This may require hoarding, a barrier, or a gate with a lock if necessary, at the entrance.
- 3.4 The site should not constitute a traffic hazard created by incoming and outgoing vehicles. Warning signs should be erected at all approaches to construction areas. Intersections of access roads to construction sites should be identified to warn traffic of slow moving equipment which may be turning on or off main roads. Access roads should be designed to accommodate anticipated loads and types of vehicles which are necessary for construction activities.

4.0 EQUIPMENT FUELLING, MAINTENANCE AND STORAGE

- 4.1 Equipment fuelling and maintenance and storage shall be done in such a manner that no fuels, oils, chemicals, and other toxic materials can gain access to surface or ground water.

The contractor shall undertake a detailed review of his proposed route of construction to plan access routes and fuelling areas. Fuel storage, refuelling and maintenance of equipment shall not be undertaken in or adjacent to watercourses. Suitable fuelling and maintenance areas shall be established and all maintenance and fuelling conducted in these areas. The locations of such areas are subject to approval by the Engineer.

The exception to this fuelling location requirement shall be generators, cranes, backhoes, or shovels, dredges, draglines, and pumps, which may be fuelled at other than the designated fuelling area. No fuelling of equipment, however, shall be carried out within thirty (30) metres of any watercourse. This requirement may be relaxed at the discretion of the Engineer if acceptable non-spill fuelling facilities are used.

- 4.2 There shall be a contingency plan for the containment and rapid clean up and disposal of spillages (land and/or water) that occur. Procedures for the interception and rapid clean-up and disposal of spillages that do occur shall be submitted to the Engineer for review and approval prior to starting work. Materials required for clean-up of fuel spillages shall be maintained in a readily accessible and usable state on site and shall be capable of handling maximum volume of liquid which may be spilled.

- 4.3 Any spill that could cause impairment to the natural environment must be immediately reported by the Engineer to the local MOE District Office.
- 4.4 Small amounts of waste from equipment servicing and maintenance may be disposed of at an approved waste disposal site. Large amounts of waste or excess oil or fuel shall either be brought to a collection system, saved for future use, or returned to the supplier.

Wherever disposal of toxic wastes is contemplated, the local MOE District Office shall be contacted for direction on disposal requirements.

- 4.5 The cleaning of equipment in streams and lakes and the emptying of fuel, lubricants and solvents into water-courses is prohibited. Construction equipment shall be cleaned prior to entering public roadways to minimize the tracking of mud and creation of dust. Protection or repair shall be provided to public road surfaces from any construction equipment utilizing those facilities. All equipment and materials shall be stored in an orderly manner and in locations acceptable to the Ministry.
- 4.6 Exhaust emissions from equipment shall be minimized through effective machine maintenance.

5.0 DUST AND PARTICULATE CONTROL

- 5.1 Dust control measures shall be undertaken to prevent dust nuisances resulting from any phase of construction operation.

Permitted dust control measures may include the application of calcium chloride, brine, or water. In general, the use of calcium chloride or brine shall be minimized and restricted to vehicular rights-of-way.

In close proximity to watercourses and land to be used for agriculture, water applications only should be used. (See also Section 11.5.)

- 5.2 In extreme cases, dust may become more of a hazard than a nuisance. On roads, for instance, dust may affect visibility and constitute a safety hazard.

Water should not be applied in amounts large enough to cause erosion from runoff.

Wood chips or gravel may be useful and a lasting solution to dust problems in small, heavy use areas such as turnouts and truck loading and dumping areas.

- 5.3 Dusty materials shall be transported in covered haulage vehicles.

6.0 NOISE AND VIBRATION CONTROL

- 6.1 Noise levels shall be controlled in accordance with local by-laws.
- 6.2 The construction work shall normally be restricted to day shift; e.g. 0700 hrs to 2000 hrs on weekdays only.

Should the scheduling of work need clearly audible operation beyond this time limit, the contractor shall require special permission from the local municipal council or its designated authority.

- 6.3 All vehicles and equipment shall be equipped with effective muffling devices and shall be operated in a fashion to minimize noise levels in the project area.

Equipment manufactured after January 1, 1979 shall be in compliance with Publication NPC-115, Construction Equipment, as amended.

- 6.4 Notwithstanding Clause 6.3, noise attenuation devices (barriers) shall be placed around pumps, compressors, and other stationary sources of loud noise. For compressors and pumps operated beyond normal working hours, special measures for noise attenuation shall be required.
- 6.5 The routes used for truck traffic related to the construction shall be selected by the municipality according to the best traffic pattern. Truck traffic shall not be directed through quiet zones or residential areas unless with municipal permission.

Truck traffic to the construction site shall be restricted to the working hours stated in Section 6.2. Emergency and maintenance crews and their vehicles are exempted from the requirements of Sections 6.2 and 6.5.

- 6.6 Control of noise and vibration from blasting operations shall be in accordance with Publication NPC-119, Blasting, as amended.

7.0 DRILLING AND BLASTING

- 7.1 When drilling and blasting operations are carried out in the vicinity of populated areas, these activities shall be carried out during normal working hours (e.g. 0700 and 2000 hours of weekdays). When it is necessary that such activities be undertaken outside normal working hours and over extended periods of time, adjacent local residents potentially affected are to be given prior notice.
- 7.2 Drilling and blasting operations shall be scheduled to avoid endangering fisheries and wildlife, particularly at critical points in their life cycle such as reproductive migrations.

7.3 Dust control measures shall be instituted to minimize air pollution.

7.4 Blasting shall be undertaken in such a manner as to minimize the effects on local wells and streamflow. Whenever possible, water wells and quality in wells within 300 m from the proposed blasting should be monitored prior to blasting. (See Section 12.1.)

8.0 PROTECTION OF LAND FEATURES AND VEGETATION

Techniques for achieving protection of land features shall appear in the construction specifications and drawings.

The following procedures shall be followed:

8.1 For vegetation to be protected in situ:

- Erect snow fencing around drip line of trees within working area.
- Do not stockpile material within drip line.
- Do not allow traffic, vehicles or equipment to compact soil within drip line.
- Prune interfering branches and treat with approved dressing.
- Do not cut tree roots.
- Tunnel under or around roots by hand digging without damaging roots.
- Treat any damaged roots over 25 mm in diameter immediately with approved tree paint.

8.2 When Raising grades in vicinity of vegetation to be protected:

- When fill is less than 400 mm deep, place clean washed gravel around tree trunk to a minimum radius of 450 mm and approximately 50 mm above finished grade.

- Use gravel graded 25 mm to 50 mm in size.
- Place gravel before earth fill.
- Do not leave earth fill in contact with trunks.
- When fill is more than 400 mm deep, depending upon the circumstances, the vegetation could be removed and replanted to match finished grade, a well could be formed around the trunk using steel, wood, brick or stone retaining structures, and/or a watering/feeding/ventilation system could be established during filling operations utilizing tiles.

8.3 When lowering grades in vicinity of vegetation to be protected:

- Provide broad rounded mounds for trees to be preserved and located above finished grade.
- The amount of cutting within drip line should be minimized. This may involve leaving irregularly shaped mounds.
- Cut all exposed or broken roots greater than 25 mm diameter clean, treat with approved dressing and cover with top soil.

8.4 For vegetation to be transplanted:

- When possible, root and foliage pruning shall take place well in advance of transplanting in order to prepare the plant.
- The ratio of the diameter of the earth ball to be dug out to the calibre of the trunk of the tree at breast height shall be a minimum of 12 to 1.

9.0 CLEARING RIGHTS-OF-WAY/DISPOSAL OF EXCESS MATERIAL

- 9.1 Grubbing and topsoil stripping shall not be permitted on any slopes or soils where soils may be sensitive to erosion (especially where the slopes are adjacent to watercourses) more than two days of production in advance of trench excavation (see also 10.2 and 13.5).
- 9.2 Top soil shall be stripped in the manner so that it may be replaced following construction. Topsoil is to be kept separated from subsoil.

Stockpiled material must be located away from watercourses and must be stabilized to prevent erosion. Where such measures are necessary and siltation of watercourses is possible, straw bale containment devices or alternate effective measures such as plastic sheets to cover stockpiles shall be installed.

- 9.3 All cleared, grubbed, and excavated material shall be disposed of in accordance with the procedures described in the following sections. At no time shall excess fill be disposed of in watercourses, drainage ditches, or floodplain areas without the permission of the appropriate authority having jurisdiction (e.g. local Conservation Authority, Ministry of Natural Resources or Municipality).

- 9.4 Excess excavated material, stones, construction debris, cleared vegetation, must be disposed of in a manner acceptable to the Engineer.

Wherever possible, first option of spoil material shall be made available to the landowner or the municipality.

Arrangements for other disposal sites shall be made by the contractor if the municipality or the landowner cannot make use of surplus excavated materials.

- 9.5 The contractor must obtain from the landowner(s) of areas to be used for disposal a written agreement setting out terms, conditions, and ultimate responsibility for the materials to be disposed and locations for disposal. This agreement is to be submitted to the Engineer prior to utilization of the site.

The Engineer will arrange to have the Regional Environmental Officer of MOE do an inspection of the disposal site prior to and after disposal operations are completed.

10.0 SITE DRAINAGE AND EROSION CONTROL

- 10.1 Site grading or other measures shall be taken to prevent runoff water from draining into the pipe trench.
- 10.2 The extent of removal of vegetation from slopes and near watercourses shall be minimized. Ten-metre (minimum) vegetation strips shall be maintained between the construction easement and the watercourse until trenching and pipe laying are imminent. This area is to be extended to the tops of any adjacent slopes where there is potential for erosion of soils to an adjacent watercourse (see also 9.1 and 13.5). These areas are to be designated on the contract drawings.
- 10.3 Provision shall be made to intercept and divert site drainage, at short distance intervals, into natural channels, infiltration ditches, settling ponds, or areas of suitable and stable ground cover.
- 10.4 Appropriate sedimentation retention measures shall be provided where necessary to ensure that sediment discharge to watercourses or adjacent land is minimized. These measures will be included in the contract documents.

In special cases, the designer should contact the local offices of MOE and MNR and/or local Conservation Authorities to discuss sedimentation avoidance and/or retention measures.

11.0 DEWATERING

Dewatering is the removal of impounded or ground water from the construction area. As a result of exposure to various soils and construction materials, such impounded water may have high concentrations of suspended sediment or may be contaminated with high nutrient content and/or toxic substances. If toxic substances are involved, the Ministry of the Environment should be contacted and provided with information of the contaminants, concentra-

tions, and the proposed method of handling these materials.

To prevent such water from affecting the water quality of watercourses, the following techniques are to be used:

- 11.1 Whenever possible, suspended solids shall be allowed to settle prior to such water being pumped out of an impoundment. Settled solids (silt) may be removed, if necessary, after water has been pumped out and disposed of at an approved location.
- 11.2 If time does not allow for suitable settling of turbid waters within the impoundment, water shall pass through a sediment barrier. For small scale operations, this can be achieved by pumping the water onto a suitable, stable cover area and allowing for filtration of sediment through the ground cover. Berms of straw bales or other suitable materials may be used to slow runoff and encourage infiltration. These forms of sediment barriers must be checked periodically and replaced when they become saturated with silt. Larger scale operations may require special designs.
- 11.3 When continuous pumping of turbid water is undertaken, it may be necessary to construct a sediment basin through which the water can be passed. A splash pad where the pumped water is discharged will assist in reducing surface erosion.
- 11.4 Discharge of dewatering operations to existing storm sewage works shall only be allowed if the discharge meets the requirements of the Municipal Sewer Use by-law.
- 11.5 If the water removed during a dewatering operation is greater than 50,000 litres per day from any ground water source, a water taking permit, issued under the Ontario Water Resources Act, must be obtained by the contractor from the Regional Office of the Ministry of the Environment.

The designer shall contact the Regional Office in cases when a water taking permit for dewatering operations is anticipated to discuss any possible impact with water taking and discharge, and possible conditions which may apply to the permit.

12.0 GROUNDWATER AND WELLS

12.1 A water level and water quality survey of wells in the zone of influence of trenching operations should be carried out during final design and monitored during construction. The condition of existing wells shall be established prior to commencing construction. Observation wells for recording changes in quantity/quality may be established using existing wells or drilling new shafts where potential problems could arise.

12.2 A contingency plan shall be worked out prior to commencement of construction to minimize inconvenience, should it be necessary to provide water for the "landowner".

12.3 Landowners experiencing temporary interference shall have water made available to them until groundwater conditions return to normal or service is reinstated.

Landowners experiencing permanent interference shall have their water wells or supply services restored (e.g. new well or an extension of municipal service).

13.0 STREAM CROSSINGS AND CONSTRUCTION THROUGH SENSITIVE AREAS

Detailed contract specifications and drawings for each significant stream crossing, intake or outfall, and sensitive area must be prepared during final design as part of the general specifications and drawings, and submitted to the Ministries of the Environment, Natural Resources, and the Local Conservations Authorities for review. Other parties may be included if required.

The contractor shall submit to the Engineer 30 days prior to construction, his detailed procedures and schedule for review. The Engineer shall consult with the appropriate authorities if there is any question of compliance of the proposed procedures and schedule with the contract documents. The contractor shall not proceed without the written approval of the Engineer.

The Engineer is to forward to the designated contact person at the nearest offices of the Ministries of Natural Resources, Environment, and the local Conservation Authority the following information:

- The date that construction is anticipated to start, together with the proposed schedule of construction activity, including mitigative and site restoration activities.
- A weekly report of progress of construction activities only if requested.
- Notice two (2) days prior to initiation of work in watercourses and other sensitive areas identified by the above-referenced agencies.

The following guidelines are to be incorporated into the contract documents where applicable.

- 13.1 Before construction at the watercourse crossing begins, all equipment and materials required must be on site and ready for use.

Prior to commencement of construction, the contractor shall obtain information on anticipated weather conditions to ascertain that reasonable conditions will prevail for the duration of the work in the stream crossing. The construction should not proceed if unfavourable conditions are forecasted in the watershed.

The time from excavation to restoration shall be kept to a minimum.

Maximum construction times for all elements of the work within the stream crossing and floodplain shall be detailed in the contractor's schedule and procedures.

- 13.2 The locations at which vehicles and heavy equipment may cross the river shall be identified in the specifications. (Vehicle crossing restrictions shall be stated to the extent possible.) At no time shall the streambed be used as a vehicle or equipment route except for those crossings specified. Crossings shall be as perpendicular to the river as possible to minimize in-stream disturbances.

Vehicles may ford streams if water levels are low enough and if the streambanks and beds are composed of erosion resistant material. The use of wooden, rubber, or gabion mats is encouraged to protect the stream banks. Where the fording areas and banks are prone to erosion, suitable stabilization will be required before use of this crossing to minimize stream muddying. Transport of equipment around watercourse via local roads should be considered as an alternative to the construction of new access crossings.

- 13.3 Bridging or fording installations for temporary stream crossings shall be made on existing natural grade where possible, with minimum disturbance to the channel.

- 13.4 Materials excavated from the watercourse must be removed and disposed of in a manner that will ensure minimum possible siltation to the watercourse.

- 13.5 The removal of vegetation from the right-of-way shall be kept to the minimum width necessary for construction.

13.6 Aquatic weeds uprooted or cut prior to or during trenching operations must be contained and adequately disposed of on land.

13.7 If a diversion channel is required, it shall be suitably sized and stabilized before the stream is diverted. Potential erosion sites in any emergency spillway, drainage or diversion channel, shall be protected with rip rap, sand bags, or other resistant material.

A water-taking permit is required prior to the construction of a stream diversion channel or temporary coffer-dam for purposes of water storage (see 11.5). The permit requires that adequate downstream flow be maintained at all times to ensure the satisfactory continuation of downstream water uses, and to ensure the preservation of plant and animal life in the stream channel.

13.8 Temporary coffer-dams and diversion channels should be designed to withstand any short-term or seasonal floods. The necessary equipment and materials should be readily available for remedial work to any dams in the event of an emergency situation. Stable material such as coarse gravel, broken rock, and sand bags is preferred over loose sand, loams and organic soils in the construction of such dams. Erodable material on the sides of the coffer dams must be protected against current action with rip rap, sand bags, or other protective material.

13.9 Prior to the preparation of the contract documents, an analysis of the characteristics of stream bed soils (to the maximum expected depth of trench) shall be undertaken. The purpose of this analysis is to allow:

- (a) predetermination of acceptable construction techniques to be employed;

(b) predetermination of acceptability of the excavated materials for backfill. This analysis shall include:

- excavated material types and volumes (clay, silt, etc.)
- particle size and volumes
- contaminants such as PCB, mercury, high nutrient content, etc.

Excavated materials from the bed of the watercourses not suitable for backfilling the trench shall be removed and deposited on land.

Disposal locations and methods for spoil material containing contaminants shall be identified in the contract specifications and drawings. The run-off from such spoil shall not be allowed to re-enter the surface waters. Ditches or berms may be constructed to prevent run-off. Locations where use of this technique is not possible must be identified and acceptable alternative strategies identified.

The same or similar procedures will have to be followed during the preparation of contract documents for intakes and outfalls.

13.10 Clean material must be used to cover the pipe as soon as it is laid across the watercourse and the streambed protected from erosion.

Streambanks and beds that have been disturbed during construction must be stabilized immediately after construction to prevent erosion.

In the event a "bypass" or "dry" construction technique is used, beds and banks of streams shall be reinstated and stabilized prior to removal of temporary installations.

- 13.11 In sensitive areas, cut-off walls or subsurface berms shall be used to prevent the creation of a "french drain effect" in the trench.

14.0 HYDROSTATIC TESTING AND DISINFECTION

For the purposes of hydrostatic pressure testing of sections of newly constructed water/sewage works, the taking of water from surface or ground sources in excess of 50,000 litres a day must be authorized with a water-taking permit issued under the Ontario Water Resources Act. Applications are available through the respective Regional Offices of the Ministry of the Environment, and must be submitted at least six weeks in advance of any hydrostatic test.

- 14.1 The terms and conditions of a permit require that the filling of the pipeline from surface sources be carried out in such a manner that stream flow is not stopped or reduced to a rate that will interfere with downstream uses or with the natural functions of the stream. For proposed takings from sources in low-flow stages, the issuance of a permit may be refused until a period of higher flow, or the proposed rate of taking may be proportionally reduced as required.

- 14.2 The discharge of water from water/sewage works should conform to the following:

- (a) The linear velocity of discharge should not produce scouring of stream channel or lake bed. A splash pad installed at a discharge will help to prevent erosion.

- (b) The quality of water returned to the watercourse or lake should be substantially the same as the water withdrawn.
- (c) The discharge of chlorinated water shall be in accordance with Section 8 of Bulletin 65-W-4, Chlorination of Potable Water Supplies (March 1980).

15.0 SITE RESTORATION

- 15.1 Restoration on easement shall restore the property to a condition at least equivalent to the state of the land prior to construction. Any special conditions affecting the land will be negotiated with the property owner at the time the option is obtained and will be included in the contract documents.

Restoration work on the municipal right-of-way shall restore the right-of-way to a condition at least equivalent to the condition prior to construction. Any special restoration measures will form part of the contract documents.

- 15.2 Restoration shall immediately follow construction if feasible. When it is not practical to carry out full restoration, interim measures shall be provided until full restoration can be implemented.
- 15.3 All surface features damaged during construction or designated to be replaced shall be restored as nearly as possible to the original condition.
- 15.4 It is essential to prepare and/or replace tile drainage systems to their original condition. Discussions with appropriate parties shall be entered into by the Engineer during the design phase so that the extent and location of tile drainage systems can be determined.
- 15.5 All open drains and ditches must be properly repaired utilizing appropriate soil stabilization procedures.

16.0 PROJECT MONITORING AND INSPECTION

Monitoring and inspection provides an accounting mechanism for proponents, consultants, contractors, Government agencies, and the public to learn from success and failures associated with the implementation of the undertaking.

A good monitoring and inspection programme promotes continuous improvements in project planning and construction. This could decrease the incidence of environmental damage and could potentially avoid contentious issues and possibly prosecutions. It also has the beneficial effect of increasing the credibility of the proponent.

Monitoring and inspection ensures that there is direct feedback from what is actually experienced in the field to what was predicted in the project planning stage. Thus, the Environmental Study Report (ESR) impact predictions can be re-evaluated and improved from project to project. Also, unexpected impacts that occur during a project's implementation can be identified and action taken to mitigate negative effects. Monitoring is one mechanism whereby the need for an Addendum to an ESR can be identified.

The examination of impacts on a more scientific and quantifiable basis can lead to better knowledge and decision-making concerning the level or extent of mitigation necessary to ameliorate negative environmental impacts and enhance the benefits associated with an undertaking.

- 16.1 The Environmental Study Report (ESR) will provide an accurate description of conditions which exist prior to the implementation of the undertaking. The anticipated effects of construction of the undertaking and the proposed actions to mitigate those effects will be predicted.

The ESR will outline a programme which will monitor the key impacts expected to be associated with a project's implementation. If no significant impact, positive or negative, is predicted, which could frequently occur with minor extensions to sewage and water projects, the ESR would indicate that the proponent does not foresee a need to monitor key impacts since none has been identified and a monitoring report will not be prepared.

Where no significant impact is anticipated but there is an unforeseen occurrence or impact, the proponent or his agent shall contact the affected parties to determine the significance of the impact. If after consultation the impact/change is considered significant, an addendum to the ESR will be prepared. The addendum will be filed with the ESR and notice will be given immediately to all affected parties in order to allow affected parties to review the proposed change and respond to the proponent. The change can be instituted following the termination of the review period.

If a monitoring and inspection programme is considered necessary, the proponent will be responsible for outlining in the ESR a programme that satisfies the following requirements:

- A definition of the objectives of the monitoring and inspection programme.
- A clear indication of the key impacts predicted that will be monitored during and immediately following construction; i.e. maintenance period.
- An outline of the information required to evaluate the cause and effect of each impact to be monitored in order that the successes and failures of the measures selected to avoid or mitigate the predicted adverse environmental effects of the undertaking during all phases of construction, can be examined.

This shall include, but not be limited to, the frequency and timing of surveys, location of monitoring sites or areas, methods of data collection, analysis and evaluation.

- The expected reporting production format and date(s) of filing shall be identified in the ESR.

For major projects, it may be necessary to hire an Environmental Inspector, who will report to the Engineer or his designated agent and assist the Engineer in his responsibilities to ensure that the environmental mitigative measures as outlined in the contract documents, will be followed by the contractor. The responsibilities of the Environmental Inspector will be outlined in the ESR. In most instances, the Environmental Inspector could then also be responsible for the preparation of the monitoring documentation.

16.2 Monitoring documentation shall be prepared based on the requirements outlined in Section 16.1. This monitoring documentation shall draw conclusions and make recommendations.

In certain instances, it may be necessary or be desirable to submit monitoring documentation during the construction phase. The documentation may be in the form of a report(s) or letter(s).

All monitoring documentation shall be filed in the public records at the same location as the ESR for the specific undertaking to which it applies.

APPENDIX A

DATE:

Project No.

TO: PROPERTY OWNER OR RESIDENT

RE:

Provincial Program

The Ministry of the Environment has awarded a contract for the installation of a system in your municipality to

The Design and supervision of the work is under the control of

In the near future, a representative of the consulting engineer will contact you regarding the location of the service connection to your lot. As you are probably aware, the Contractor will install the service connection to your lot at the property line- it is your responsibility to determine the best location for your connection, and eventually to complete the connection to your dwelling.

While construction is in progress, some inconvenience to local vehicular traffic will be unavoidable, but the construction schedule will be arranged such as to reduce this to a minimum. When installation of services takes place on your street, there may be a short period during which you will be required to make alternate parking arrangements to allow for the restoration of driveways and other accesses.

Should you have any questions, problems or complaints, please contact the consultant's Resident Engineer or Inspector.

If you are unable to reach the Resident, please leave a message at the Municipal Office and you will be contacted in due course.

It is important to note that private connections must not be installed from the property line to the dwelling until such time as the total system is complete and until you have obtained a "permit" from the Municipality.

With everyone's co-operation, it is hoped that the installation of these vital services will proceed smoothly and despite occasional unavoidable inconveniences, will result in a satisfactory system for the betterment of the whole community.

Yours very truly,

Project Manager
Environmental Approvals and
Project Engineering Branch

APPENDIX B.1

TELEPHONE NUMBERS OF MOE REGIONAL AND DISTRICT OFFICES

Southwestern Region

London Regional Office	681-3600
Windsor District Office	254-5129
Sarnia District Office	336-4030
Owen Sound District Office	371-2901
Chatham Sub-District Office	352-5107
Clinton-District Pesticides Ofcr.	482-3428

West-Central Region

Hamilton Regional Office	521-7640
Cambridge District Office	623-2080
Welland District Office	735-0431

Central Region

Toronto Regional and District Office	424-3000
Barrie District Office	726-1730
Muskoka-Haliburton District Office (Gravenhurst)	687-3408
Peterborough District Office	743-2972
Halton-Peel District Office (Oakville)	844-5747

Southeastern Region

Kingston Regional Office	549-4000
Ottawa District Office	521-3450
Cornwall District Office	933-7402
Belleville District Office	962-9208
Pembroke District Office	732-3643

Northeastern Region

Sudbury District Office	675-4501
Timmins District Office	264-9474
Sault Ste. Marie District Office	949-4640
North Bay District Office	476-1001
Parry Sound District Office	746-2139

Northwestern Region

Thunder Bay District Office	475-1205
Kenora District Office	468-5578

APPENDIX B.2

Tel. Nos. of Ontario Weather Offices*	Hours of Operation	Hub Respons.**
Toronto 676-4567 676-3020	24-hr. Operation (weather for all Ontario)	
Hamilton (T. Dwyer) 524-2035	Mon-Sat 0545-2105 LST Sun 0645-2205 OIC (Admin) 0800-1530	Toronto
Kingston (G. Hasler) 613-389-3252	Mon-Sun 0545-2045 LST	Ottawa
London 451-4750	Mon-Sun 0545-2240 LST	Windsor
St. Catharines (R. King) 688-1847	Mon-Sun 0645-1715 LST	Toronto
North Bay (D. Code) 705-472-9110	24-hr. operation	-
Ottawa (M. Forbes) 185-8-9443 613-521-0850	24-hr. operation	-
Peterboro (R. Laroque) 519-542-6051	Mon-Sun 0630-1713 LST	Ottawa
Sarnia (G. Garner) 519-542-6051	Mon-Sun 0545-1630 LST	Windsor
S. Ste. Marie (R. Houghton) 705-779-3144	Mon-Sun 0630-2115 LST	North Bay
Sudbury (J. DeCorby) 705-693-4540	Mon-Sun 0545-2130 LST	Toronto
Waterloo/Well (J. Millar) 648-2571 648-2833	Mon-Fri 0630-1400 LST Mon-Sun 0630-1710 LST	Toronto (1PY)*** (2PY)***
Windsor (J. Mornan) 519-969-1792	24-hr. operation	

- * These are called WO 4 weather offices which provide briefing services and provision of documentation using weather forecasts from WO 1 levels. WO 1 levels provide the forecasts.
- ** During the quiet (or off) hours issuance of weather warnings would be taken over by the offices listed.
- *** Persons on duty.

APPENDIX C

DETAILS TO BE SHOWN ON CONTRACT DRAWINGS

PREPARED FOR MINISTRY OF THE ENVIRONMENT PROJECTS

The details which should be shown on all contract drawings are:

1. Plan and profile views with surface contours at intervals not greater than 5 feet or 2 metres (where possible).
2. All watercourses (permanent and intermittent) as well as major surface drainage courses.
3. In urban situations and rural residential areas, all trees and shrubs and landscape features and sensitive or unique areas within, as well as immediately outside, of the working area. The proponent or his agent should indicate the vegetation that is to be removed, as well as that which is to be saved, so that there will be no confusion in the field. In non-urban situations where larger forested areas exist and it is not practicable to identify each specific item of vegetation, general listings will be acceptable. However, special items or areas to be saved should be clearly marked.
4. All existing and planned (where known) utilities, occupied and vacant buildings, and other structures.
5. The alignment of pipelines and appurtenances and location of water/sewage works facilities, including boundaries of permanent and temporary easements, access roads; and construction yards, if applicable, are to be identified.
6. Notes and diagram details explaining methods of installation, restoration and/or removal of all permanent and temporary easements, access roads, bridges and any other facilities shall be included. Specific mitigation measures and designs of both a temporary and permanent nature to avoid environmental damage shall be included on a site specific basis where applicable; for example, details as to areas that are to be hydro-seeded, sodded, sodded and staked, rip-rapped, lined with Gabion baskets, etc. Items identifying requirements of landowners shall also be included, where applicable; for example, trench crossing access, fencing, vegetation protection, etc.
7. Location of snow-fencing to be placed along the boundaries of the temporary easement.
8. Notes and location, where possible, of existing recreation areas potentially to be affected by the construction activity.
9. Any other items referenced in these guidelines that the proponent or his agent might feel are pertinent to the instruction of the contractor and success of the project.



MOE/MOE/ADD/ALWY

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